

CLAIMS

1. A device (10) for the computer-assisted positioning of a cutting guide intended to guide a cutting tool capable of cutting bone portions at the level of the head of a bone, comprising:

- 5                   - a base (16) intended to be attached to the bone;  
                  - a support element (80); and  
                  - means (28, 68, 90) for setting the position of the support element according to at least three degrees of rotational freedom and two degrees of translational freedom,  
10 each setting means being capable of selectively and continuously setting the position according to a degree of rotational and/or translational freedom in decoupled fashion with respect to the other degrees of rotational and/or translational freedom,  
                  in which support element is intended to receive in  
15 determined fashion at least one seat (108, 110) intended to be attached to the bone and to receive the cutting guide, said seat being detachable from the support element, and in which the support element is intended to receive means for determining the position of the support element.

20           2. The device of claim 1, in which the setting means (28, 68, 90) are capable of setting the position of the support element (80) according to three degrees of rotational freedom and three degrees of translational freedom.

          3. The device of claim 1, in which each of the  
25 means (28, 68, 90) for setting the position of the support element (80) according to one degree of translational freedom comprises an element (28, 46, 68) having a threaded opening (71) in which is screwed a threaded rod (26, 50, 70).

          4. The device of claim 1, in which at least one  
30 means for setting the position of the support element (80) according to one degree of rotational freedom comprises a pivotal connection (86, 88) and means (18, 40, 42, 90) for blocking said degree of rotational freedom.

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5. The device of claim 1, in which the base (16) comprises a cylindrical portion, the device further comprising:

- a first cylindrical piece (12) assembled to freely rotate on the cylindrical portion;

5       - means (18) for blocking the first cylindrical piece with respect to the cylindrical portion;

- a second cylindrical piece (26) assembled to freely rotate and shift on the cylindrical portion; and

10       - means (28) for setting the axial position of the second cylindrical piece with respect to the first cylindrical piece.

6. The device of claim 1, comprising a trolley (33) assembled on the base (16) and two sliding rails (36, 38) capable of pivoting with respect to the trolley around a  
15       determined rotation axis (X2) and capable of sliding with respect to the trolley according to said determined axis.

7. The device of claim 6, comprising a threaded rod (50) extending from the trolley (33) along said determined axis (X2), and a thumb wheel (28) screwed on the threaded rod and  
20       capable of sliding the sliding rails (36, 38) with respect to the trolley.

8. The device of claim 1, comprising a first frame (54) arranged in a second frame (56), the second frame (56) comprising means for guiding the first frame in translation  
25       along a determined direction.

9. The device of claim 8, in which the support element (80) is pivotally assembled on the second frame (56) around an axis parallel to the determined direction.

10. The device of claim 1, in which the support  
30       element (80) comprises several openings (106) adapted to the assembly of the seat (108, 110) according to a determined configuration from among several determined configurations.

11. The device of claim 1, in which the seat (108, 110) and the cutting guide are solid.